Title of paper: Small Satellite Reliability Initiative (SSRI) Knowledge Base Tool: Use Case Review and Future Functionality and Content Direction

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Abstract – 500 word maximum:

NASA's Small Satellite Reliability Initiative (SSRI), in conjunction with NASA's Small Spacecraft Systems Virtual Institute (S3VI), has developed the SSRI Knowledge Base to improve mission confidence for small spacecraft. The SSRI is a collaborative activity with broad participation from civil, Department of Defense, and both national and international commercial space systems providers and stakeholders. The S3VI is jointly sponsored by NASA's Space Technology Mission Directorate and Science Mission Directorate.

The SSRI Knowledge Base is a comprehensive and searchable online tool that consolidates and organizes resources, best practices, and lessons learned from previous small satellite missions sponsored by NASA, other government agencies, and academia. This free, publicly available tool is available to the entire SmallSat community at https://s3vi.ndc.nasa.gov/ssri-kb/.

The SSRI Knowledge Base provides vetted, high-quality sources of information on elements that are key to successful small satellite missions. These resources include SSRI working group generated documents and presentations in addition to existing guides, publications, standards, software tools, websites, and books. The Knowledge Base is fully searchable, offers downloadable content when possible, and otherwise links to or references content directly from within the tool.

All 58 of the planned topic pages that comprise the SSRI Knowledge Base have been recently completed and include over 450 unique resources that are now available for review. Over the past several months, significant enhancements to the tool's capabilities have been developed and implemented. These enhancements consist of the completed baseline content, an Application Programming Interface (API), improved user interfaces, new interfaces for crowdsourcing of content and user ratings, and custom website analytics to inform future development.

This presentation and paper will discuss the motivation for the SSRI Knowledge Base, review educational use case(s), and outline plans for further development.

The 2022 session topic that best fits the abstract (select only one): Coordinating Successful Educational Programs